

Name: _____

at1113exam: Expand, factor, and solve quadratics (v216)

1. Expand the following expression into standard form.

$$(3x + 5)^2$$

$$9x^2 + 15x + 15x + 25$$

$$9x^2 + 30x + 25$$

2. Solve the equation.

$$(5x + 8)(4x + 3) = 0$$

$$x = \frac{-8}{5} \quad x = \frac{-3}{4}$$

3. Expand the following expression into standard form.

$$(9x + 4)(5x + 3)$$

$$45x^2 + 27x + 20x + 12$$

$$45x^2 + 47x + 12$$

4. Expand the following expression into standard form.

$$(4x - 3)(4x + 3)$$

$$16x^2 + 12x - 12x - 9$$

$$16x^2 - 9$$

5. Factor the expression.

$$9x^2 - 49$$

$$(3x - 7)(3x + 7)$$

6. Solve the equation with factoring by grouping.

$$10x^2 - 8x + 15x - 12 = 0$$

$$(2x + 3)(5x - 4) = 0$$

$$x = \frac{-3}{2} \quad x = \frac{4}{5}$$

7. Factor the expression.

$$x^2 - x - 56$$

$$(x + 7)(x - 8)$$

8. Solve the equation.

$$10x^2 - 60x + 67 = 3x^2 - 2x + 4$$

$$7x^2 - 58x + 63 = 0$$

$$(7x - 9)(x - 7) = 0$$

$$x = \frac{9}{7} \quad x = 7$$